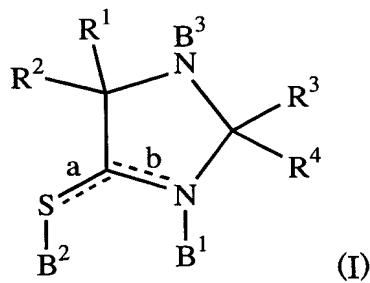
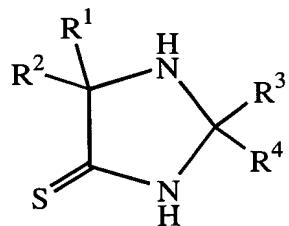


Claims

1. A method for making a compound of formula (I)



wherein bonds a and b are single or double bonds, provided that one of a and b is a single bond and the other is a double bond; one of B¹ and B² is –CHR⁵·CHR⁶·C(Y)ZR⁷ or hydrogen and the other is absent; B³ is –C(W)NHR⁸ or hydrogen; provided that one of B¹, B² and B³ is not hydrogen; R¹, R², R³ and R⁴ are independently hydrogen, alkyl, alkenyl, aryl or aralkyl; or R¹ and R², or R³ and R⁴, combine with the carbon atom to which they are attached to form an alkyl or alkenyl ring; provided that at least three of R¹, R², R³ and R⁴ are alkyl, alkenyl, aryl or aralkyl; Y and W are O or S; Z is O, S or NR⁹; R⁵ is hydrogen or C₁–C₄ alkyl; R⁶ is hydrogen or C₁–C₄ alkyl; R⁷ and R⁹ are independently hydrogen, alkyl, alkenyl, aryl or aralkyl; and R⁸ is alkyl, alkenyl, aryl or aralkyl;
said method comprising adding to an imidazolidinethione having formula

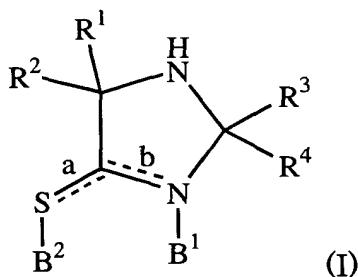


one of: (i) CHR⁵=CHR⁶·C(Y)ZR⁷; and (ii) R⁸N=C=W to form a reaction mixture; wherein the reaction mixture is substantially free of solvent.

2. The method of claim 1 in which $\text{CHR}^5=\text{CHR}^6\text{-C(O)OR}^7$ is added to the imidazolidinethione; R^5 is hydrogen; and R^6 is hydrogen or methyl.

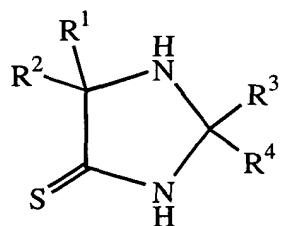
3. The method of claim 2 further comprising an alkali metal carbonate in an amount less than 10 mole % relative to $\text{CHR}^5=\text{CHR}^6\text{-C(O)OR}^7$.

4. A method for making a compound of formula (I)



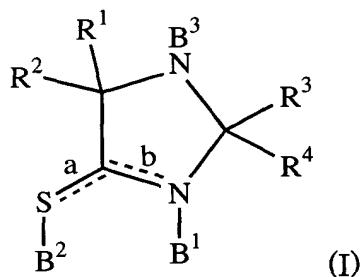
wherein bonds a and b are single or double bonds, provided that one of a and b is a single bond and the other is a double bond; one of B^1 and B^2 is $-\text{CR}^{10}\text{R}^{11}\text{-NHR}^{12}$ and the other is absent; R^1 , R^2 , R^3 and R^4 are independently hydrogen, alkyl, alkenyl, aryl or aralkyl; or R^1 and R^2 , or R^3 and R^4 , combine with the carbon atom to which they are attached to form an alkyl or alkenyl ring; provided that at least three of R^1 , R^2 , R^3 and R^4 are alkyl, alkenyl, aryl or aralkyl; R^{10} and R^{11} independently are hydrogen, alkyl, alkenyl, aryl or aralkyl; and R^{12} is alkyl, alkenyl, aryl or aralkyl;

said method comprising adding $\text{R}^{10}\text{R}^{11}\text{C=O}$ and R^{12}NH_2 to an imidazolidinethione having formula



and heating to a temperature from 50°C to 180°C.

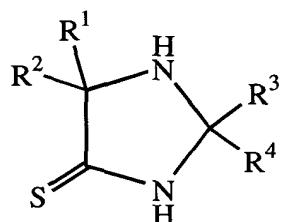
5. A method for making a compound of formula (I)



wherein bonds a and b are single or double bonds, provided that one of a and b is a single bond and the other is a double bond; one of B¹ and B² is –CHR⁵–CHR⁶–C(Y)ZR⁷, –CR¹⁰R¹¹–NHR¹² or hydrogen and the other is absent; B³ is –C(W)NHR⁸ or hydrogen; provided that one of B¹, B² and B³ is not hydrogen; R¹, R², R³ and R⁴ are independently hydrogen, alkyl, alkenyl, aryl or aralkyl; or R¹ and R², or R³ and R⁴, combine with the carbon atom to which they are attached to form an alkyl or alkenyl ring; provided that at least three of R¹, R², R³ and R⁴ are alkyl, alkenyl, aryl or aralkyl; Y and W are O or S; Z is O, S or NR⁹; R⁵ is hydrogen or C₁–C₄ alkyl; R⁶ is hydrogen or C₁–C₄ alkyl; R⁷, R⁹, R¹⁰ and R¹¹ are independently hydrogen, alkyl, alkenyl, aryl or aralkyl; and R⁸ and R¹² independently are alkyl, alkenyl, aryl or aralkyl;

said method comprising steps of:

(a) preparing an imidazolidinethione having formula



and (b) adding to the imidazolidinethione, without isolation of the imidazolidinethione, one of: (i) CHR⁵=CHR⁶–C(Y)ZR⁷; (ii) R¹⁰R¹¹C=O and R¹²NH₂; (iii) R¹⁰R¹¹C=NR¹²; and (iv) R⁸N=C=W.

6. The method of claim 5 in which $R^{10}R^{11}C=O$ and $R^{12}NH_2$ are added to the imidazolidinethione.

7. The method of claim 5 in which $CHR^5=CHR^6-C(O)OR^7$ is added to the imidazolidinethione; R^5 is hydrogen; and R^6 is hydrogen or methyl.

8. The method of claim 5 in which $R^8N=C=W$ is added to the imidazolidinethione and further comprising removal of substantially all water prior to addition of $R^8N=C=W$.

9. The method of claim 8 in which W is O, and R^8 is aryl or C_8-C_{20} alkyl.